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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,128	06/25/2004	James Surjan	P25,624A USA	7387
7590 Joseph Posillico Synnestvedt & Lechner 2600 Aramark Tower 1101 Market Street Philadelphia, PA 19107-2950			EXAMINER SELLERS, ROBERT E	
			ART UNIT	PAPER NUMBER
			1712	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/02/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/500,128

Applicant(s)

SURJAN, JAMES

Examiner

Robert Sellers

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. The corrections of the informalities noted in paragraph 1 of the non-Final rejection mailed November 17, 2006, the clarification of the definition for the "active components" denoted in claim 6 to components participating in the curing of the composition as described in the last three lines on page 3 of the specification, and the limitation of claim 7 to "consists essentially of" the aliphatic and tertiary amines overcomes the grammatical problems cited in paragraph 1 and the 35 U.S.C. 112, second paragraph rejection set forth in paragraph 2.

The text of sections 102(a), (b) and (e); and 103(a) of the Title 35, U.S. Code as well as the non-statutory double patenting basis not included in this action can be found in the non-Final rejection.

2. The Remarks/Arguments section of the amendment filed March 19, 2007 on page 11, the third paragraph, lines 8-12 interprets the epoxy:amine weight ratio of from about 0.5:1 to about 10:1 newly inserted into independent claim 1 from cancelled claim 9 as based upon the relative weights of the epoxy compound and combination of aliphatic amine and tertiary amine. Accordingly, the claimed epoxy:amine ratio will be interpreted as such when considering the prior art applied hereinbelow.

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Claims 1-8, 10 and 18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Surjan et al. Patent Nos. 6,291,555 (claims 1-19); 6,403,678 (claims 1, 2 and 8-10) or 6,420,458 (claims 1-12 and 23-26). Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons of record espoused on page 3, paragraphs 4 and 5 of the non-Final rejection.

Claims 11-14 and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the Surjan et al. patents as applied hereinabove and further in view of Morgan et al. Patent No. 5,681,128 for the reasons of record set forth on pages 4-5, paragraphs 6-8 the non-Final rejection.

Coleman et al. Patent No. 6,166,849 is no longer relied upon as teaching an epoxy:amine equivalent ratio of from 0.67:1 to 1.3:1 for an adhesive due to applicant's admission that the claimed epoxy:amine ratio is predicated upon the relative weights of epoxy resin and combined aliphatic and tertiary amines as explained in previous paragraph 2.

Claims 15-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the Surjan et al. patents as applied hereinabove and further in view of Gienau et al. Patent No. 6,645,340 and Hartman et al. Patent No. 5,962,602 for the reasons of record discussed on pages 5-6, paragraphs 9-11 of the non-Final rejection.

Claims 1-8, 10 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Surjan et al. '555, '678 or '458 or Surjan et al. Patent Nos. 6,402,434 or 6,416,256 for the reasons presented in the non-Final rejection on page 7, lines 12 and 13.

Claims 11-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Surjan et al. patents as applied hereinabove and further in view of Morgan et al for the reasons of record espoused in the non-Final rejection on page 8, paragraph 14.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Surjan et al. patents as applied hereinabove and further in view of Gienau et al. and Hartman et al. for the reason of record discussed on page 9, paragraph 15.

The arguments filed March 19, 2007 have been considered but are unpersuasive.

3. Portions of the Surjan et al. patents have been cited as disclosing an amine:epoxy weight ratio of from 0.178:1 to about 35.29:1. These cited portions do not set forth any such values and there are no sample calculations to corroborate such a range if derived from the described amounts of from about 20-45% by weight of epoxy resin in the first part 12 of the adhesive and from about 5-20% by weight of amine compound and from about 0.1-15% by weight of tertiary amine in the second part 14.

4. Surjan et al. '555 (col. 6, lines 55-56 and the col. 7 tables) contains the same example as the other Surjan et al. patents wherein a 4:3 weight ratio of first and second parts of an adhesive is formulated. The first part contains 28.00% by weight of epoxy resin.

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The second part includes 14.67% by weight of aliphatic amine and 1.73% by weight of tertiary amine. The relative weight ratio of epoxy:amine based on applicant's definition of epoxy:amine weight ratio is:

$28.00\% \text{ by weight of epoxy resin} \times \frac{4}{3} = 37.3\% \text{ by weight of epoxy resin relative to the second part.}$

$16.40\% \text{ by weight of combined aliphatic and tertiary amine } (14.67\% + 1.73\%) \times \frac{3}{4} = 12.3\% \text{ by weight of amines relative to the first part.}$

The epoxy:amine weight ratio of the combined first and second parts is  $37.3\% \text{ by weight of epoxy resin} \div 12.3\% \text{ by weight of amines} = 3.0:1$  which is well within the claimed parameters of from about 0.5:1 to about 10:1.

5. Since column 4, lines 28-30 and column 5, lines 22-25 of Surjan et al. '555 reports levels of epoxy resin of as low as about 20% by weight and a combined maximum concentration of amine compounds of 35% by weight, the calculations presented hereinabove when utilizing 20% by weight of epoxy resin and 35% by weight of amines converts to:

$20\% \text{ by weight of epoxy resin} \times \frac{4}{3} = 26.7\% \text{ by weight of epoxy resin relative to the second part.}$

$35\% \text{ by weight of combined aliphatic and tertiary amine } (20\% + 15\%) \times \frac{3}{4} = 26.25\% \text{ by weight of amines relative to the first part.}$

The epoxy:amine weight ratio of the combined first and second parts is  $26.7\% \text{ by weight of epoxy resin} \div 26.25\% \text{ by weight of amines} = 1.0:1$  which is embraced by the upper limit of 1:1 required in independent claim 11.

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6. Morgan et al. is directed to an epoxy adhesive (col. 5, lines 50-54) containing a curing agent such as Ancamine 2205 (col. 9, lines 16-22) which is analogous to the amine-curable epoxy adhesives of the Surjan et al. patents. The diverse use of the epoxy resin-aliphatic amine-tertiary amine blends of Surjan et al. and the claims as an anchoring adhesive is merely the ultimate intended utility of the amine-curable epoxy adhesive and does not discount its relevance to the amine-curable epoxy adhesive of Morgan et al. employed for a different purpose. The claimed adhesive "for anchoring materials" merely indicates the ultimate use of the compositions and is not a material limitation thereof.

Claims 1-8, 10 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No. 61-148280 or 2001-240837 or European Patent No. 488,949.

Claims 11-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese '280 and '837 and the European patent as applied hereinabove and further in view of Morgan et al.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese '280 and '837 and the European patent as applied hereinabove and further in view of Gienau et al. and Hartman et al.

The Shimbo et al. abstracts and Toussaint et al. are rescinded due to the lack of recitation of the claimed epoxy:amine weight ratios denoted in independent claims 1 and 11.

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Otherwise, the rejections are maintained for the reasons of record set forth in the non-Final rejection on page 9, paragraph 16 to page 12, paragraph 18. The arguments filed March 19, 2007 have been considered but are unpersuasive.

7. The example in the CAPLUS abstract for Japanese '280 shows 100 parts by weight of Epomik epoxy resin per 15 parts by weight of combined pentaethylenhexamine and 2,4,6-tris(dimethylaminomethyl)phenol which converts to an epoxy:amine weight ratio of 100:15, or 6.67:1.

8. Japanese '837 (translation, page 10, paragraph 46 and page 11, Table 2) in Example 3 exhibits a blend of 190 parts by weight of polyepoxide (B-1) per 37 parts by weight of combined aliphatic polyamine and tris(dimethylaminomethyl)phenol converted to an epoxy:amine weight ratio of 100:37, or 2.7:1.

9. The European patent on pages 6-8 displays a mixture of 75 wt.% of epoxy resins and 42.8 wt.% of amines at an epoxy resin:hardener ratio of 100:100 which converts to an epoxy:amine weight ratio of 75:42.8, or 1.75:1.

10. Accordingly, each of the exemplified epoxy:amine weight ratios calculated hereinabove falls within the range of from about 0.5:1 to about 10:1 required in independent claim 1.



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11. With respect to the narrower parameters of from about 0.8:1 to about 1:1 defined in independent claim 11, the European patent sets forth from about 5 to about 60 wt.% of an aromatic multifunctional epoxy resin (page 3, lines 12-14) such as a polyglycidyl ether of bisphenol A (page 2, lines 44-46 and 50, wherein 2,2-bis(4-hydroxyphenyl)propane is bisphenol A) in the epoxy resin component, and from about 5 to about 90 wt.% of an aliphatic amine (page 4, lines 47-49) along with from about 0.5 to about 7 wt.% of a tertiary amine in the hardener component. The epoxy resin component and hardener component is mixed at a ratio of as high as about 1:1 (page 5, line 26), thereby embracing the amine:epoxy ratio limits of independent claim 11.

Claims 1-8 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al., Morgan et al., Gienau et al., Hartman et al., Armin et al. Patent No. 6,214,159; Grieves et al. Patent No. 4,623,702; Martin Patent No. 6,572,971 and Japanese Patent Nos. 2000-273354, 57-159866 and 60-258277.

The rejection is maintained for the reasons of record set forth on pages 12-13, paragraphs 19-22 of the non-Final rejection. The arguments filed March 19, 2007 have been considered but are unpersuasive.

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12. Coleman et al. (cols. 7-8, Table 1, Examples 8-11) shows blends of bisphenol A epoxy resin and (cyclo)aliphatic amines in resin:curing agent weight ratio of 5:3.3, or 1.5:1.

13. Morgan et al. (col. 9, lines 11-25) discloses a two-part adhesive composed of a Part A containing from about 60 to 90 parts by weight of epoxy resin and a Part B comprising Ancamine 2205 aliphatic amine curing agent at a ratio of Part A:Part B of 100:100.

14. Armin et al. is directed to a two-component system (col. 2, lines 46-51) composed of 100 parts by weight of an epoxide, from 20 to 80 parts by weight of polyamine (col. 2, lines 21-24) and a curing catalyst.

15. Hartman et al. teaches a two-part adhesive prepared from a Part A containing from 40-55% by weight of epoxy resin (col. 3, lines 11-13) and a Part B with from about 1-3% by weight of an aliphatic amine and from about 9-18% by weight of an amine accelerant (col. 4, lines 1-6).

16. Grieves et al. (col. 2, lines 4-19) reports a two-component adhesive obtained from a first component containing from 29 to 52 percent by weight of an epoxy resin (a) and a second component comprising from 34 to 45 percent by weight of an amine hardener (a) (col. 2, lines 62-64) and from 1 to 27 percent by weight of tertiary amine (d) (col. 3, lines 47-49).

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17. Martin is drawn to a two-component adhesive derived from an epoxy resin and between about 1 and 65 wt.% of an aliphatic polyamine (col. 4, lines 8-11).

18. Japanese '354 (translation, page 3, paragraph 12, Example 5) shows a blend of 100 parts by weight of bisphenol A epoxy resin and 30 parts by weight of alicyclic polyamine wherein from 0.1-3.0 parts by weight of a tertiary amine can be included (page 2, paragraph 8).

19. Japanese '866 (CAPLUS abstract example) shows a mixture of 100 parts by weight of bisphenol A epoxy resin and 50 parts by weight of Epomate-B-002 aliphatic diamine.

20. Japanese '277 (CAPLUS abstract example) exhibits a formulation containing 100 parts by weight of bisphenol A epoxy resin and 50 parts by weight of amine curing agent including aliphatic diamines (Derwent abstract).

21. Accordingly, each of the references recites epoxy:amine weight ratios within the broad parameters of claims 1-10 and 18. For those references including Coleman et al., Morgan et al., Martin and Japanese '866 and '277 lacking a recitation of the claimed tertiary amine, it would have been obvious to employ the tertiary amines of Hartman et al., Greives et al. and Japanese '354 at the disclosed proportions which falls within the claimed epoxy:amine weight ratio when combined with the aliphatic amines of the references, in order to increase the cure rate.

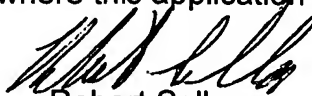
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22. The broad teachings of Morgan et al., Armin et al., Grieves et al. and Martin with respect to the epoxy:amine weight ratios encompassing the narrower range of claims 11-17 and 19 along with the revelations in Hartman et al., Grieves et al. and Japanese '354 regarding the incorporation of a tertiary amine, establish an epoxy:amine weight ratio including a tertiary amine within their narrower confines.

The amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

  
Robert Sellers  
Primary Examiner  
Art Unit 1712

rs 3/29/2007